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ABSTRACT

The Department of Social Services has designed a systems model to integrate the services provided for the child by the foster home, school, and community agencies so that each child in its charge can gain the skills necessary to develop the motivation and emotional maturity for self-direction and self-discipline. Multilevel reinforcers are used by the home, school, and other subsystems to: (1) weaken behavior; (2) strengthen behavior; or (3) establish new behavior. The Department of Social Services then monitors each subsystem to determine the degree to which each child's actual behavior approximates desired behavior. Modification of each child's program is made as feedback indicates the necessity for change. (Author)

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A SYSTEMS APPROACH TO BEHAVIOR MODIFICATION:

A SPECIAL FOSTER HOME PROGRAM

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The family has changed dramatically since World War II. Problems such as divorce, desertion, mobility, and changing values have reduced the number of services that the family system is able or willing to provide for its members. When the family deteriorates, outside agencies must be recruited to augment the services formerly provided by the family. Once such assistance to the family becomes commonplace, society can no longer retain former concepts of the family as a closed autonomous unit but must then view the family as a semi-autonomous subsystem of society. Society or its established institutions become the system.

The Department of Social Services is a system. Hall and Fagen (1956, p.9) define a system as "a set of objects together with the relationship between their attributes. The attributes are the properties of objects and the relationships tie them together". The objects in this sytem are the people. Their attributes are the mental, moral, physical, and social qualities that give the people their humanness. The relationship which ties the people in this system together are the legal requirements imposed upon them by society. The family, school and other agencies become subsystems. The family and schools must be considered subsystems because neither of them can muster sufficient goods and services needed to sustain the child in a growth producing environment.

Social Services: A System

The Social Services System has been charged by government to provide children from disrupted homes with a growth producing environment they are not getting from the family. To fulfill this charge Social Services integrates and coordinates the efforts of several

subsystems which include the "family, school, various community agencies, law enforcement groups, and courts".

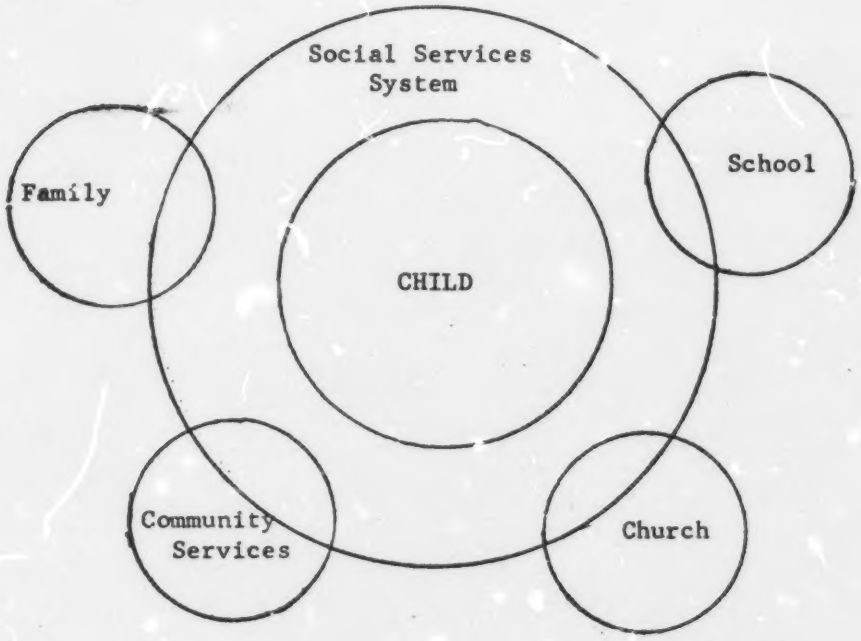

Figure 1: The Social Services system with community, family and school subsystems.

The Special Foster Home program is an example of a system which co-ordinates many subsystems. The Special Foster Home program administrators are responsible for the system's development and funding. This involves selection of children for the program, foster parent selection, child placement, and follow-up; parent assistance, school selection placement, and follow-up; securing outside specialists to supplement skills provided by home and school; and parent training.

The Department of Social Services established goals to give direction and purpose to its efforts. They decided that the system's

major goal was to produce adjusted children (Coombs, 1958, pp.15-19). By establishing such goals they were able to integrate the efforts of each subsystem and assert maximum effort to produce adjusted children.

These general goals are gradually translated into established patterns of behavior through an operant conditioning procedure involving five steps and using five levels of reinforcers. Simply stated, all subsystems use a five step sequence to establish and maintain desired behaviors. Each subsystem must:

1) define levels of terminal behavior in measurable units,
2) determine which behaviors are likely to be most effective,
3) determine the child's present level of behavior,
4) systematically apply the proper reinforcers to produce the desired behaviors, and
5) change their procedures when feedback information indicates a need for change.

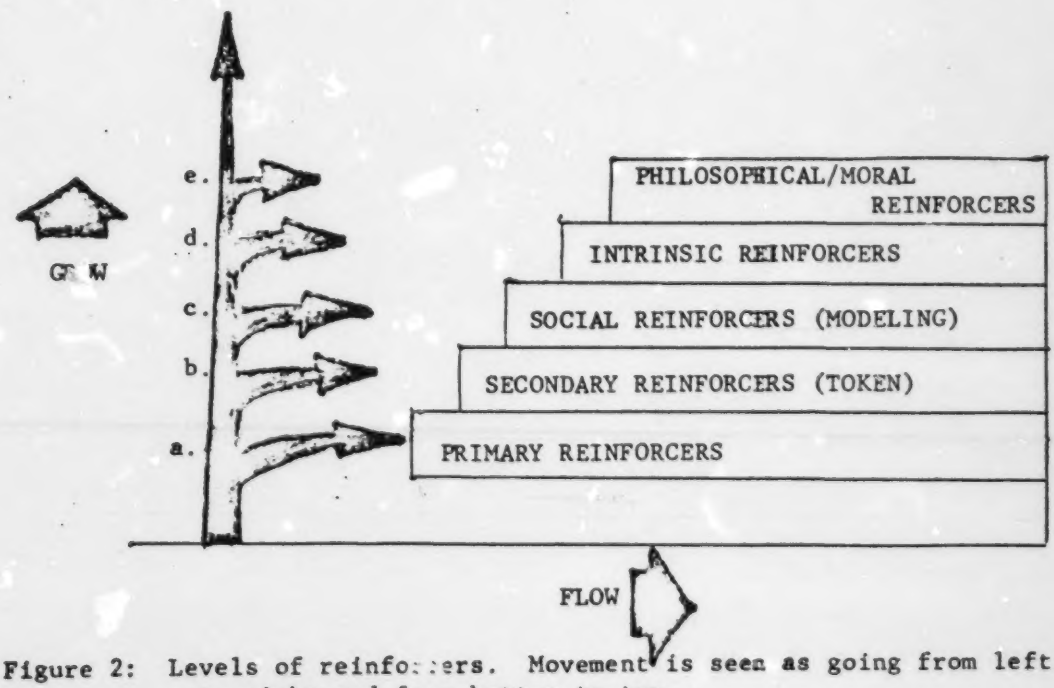

Figure 2: Levels of reinforcers. Movement is seen as going from left to right and from bottom to top.

The School Subsystem

Schools traditionally have been concerned with transmitting knowledge and skills. These traditional functions have now been expanded to include development of: self understanding, healthful home and family living skills, personal-social relation skills, self discipline skills, community living skills, leisure time activities skills, as well as finding values by which to live.

The knowledges and skills that the school endeavors to transmit have been roughly classified into academic areas or school subjects. Even though these academic areas are interdependent and overlapping they can be broken down into measurable units. The following examples illustrate typical behaviors established within selected school subjects:

Reading: The objective of a reading program is to develop those reading skills which will enable a child to successfully master the skills in other subject areas (Bloom, 1971). Thus, some of the skills that the reading program must develop are: use of phonetic and structural elements in word recognition, word meaning, and comprehension; eye-voice span, use of punctuation aids; and phrasing and inflection.

Language: The language programs aid students in the development of language sounds, word forms, word arrangement (Bloom, 1971). They also develop skills in spelling, word meaning, and dictionary usage.

Writing: Writing instruction produces demonstrated competence in penmanship, sentence structure, paragraph structure, capitalization, punctuation, sentence expansion, writing letters, reports, summaries, poems, stories, and essays (Bloom, 1971).

Mathematics: Mathematics instruction equips students to demonstrate knowledge about such concepts as: numbers, addition, subtraction, multiplication, application of simple arithmetic operations to solve problems, fractions, decimal systems, linear and angular shapes, and the application of rational numbers (Bloom, 1971).

The personal-social-affective domains: Desired behavioral objectives in these domains include teaching the child to: follow oral and written directions, ask questions, complete assignments, model appropriate behavior, develop socially acceptable behavior, speak in groups, choose friends, initiate conversation with teachers, and stop classroom disruption (Bloom, 1971).

The Family Subsystem

The family subsystem must equip the child with broader, less clearly defined skills than the school. Ritter (1972, p.26) lists fifteen family responsibilities which illustrate the range of competencies that the family must develop. The function of the family subsustem is to teach the child to: (1) adapt; (2) be challenged and fail without collapsing or succeed without becoming arrogant; (3) communicate; (4) be a conservationist of resources; (5) be considerate of others; (6) contribute physically, mentally and emotionally to the family; (7) cooperate; (8) decide in terms of probable consequences; (9) be dependable; (10) be thoughtful and independent in thought and action for the good of humanity; (11) laugh; (12) be loyal; (13) think objectively; (14) lead or follow; and (15) develop skills.

The family must translate these general goals into specific observable behaviors if it is to monitor its progress. The family is likely to judge the degree to which its broad objectives have been fulfilled by observing the child when he: (1) exhibits acceptable growing habits; (2) helps with family chores; (3) participates in family recreation; (4) demonstrates an understanding of the family's standards of conduct; (5) does not destroy property; (6) eats a balanced diet; (7) participates in family decision making; (8) demonstrates the ability to manage money: (10) does not unnecessarily disrupt the family by displaying inappropriate behaviors; (11) talks with family members; and (12) completes tasks that are his responsibility.

Behavior Modification Methods Used to Fulfill the System's Functions

All behavior modification techniques are used by people in the subsystems to produce desired behaviors. MacMillan (1973, p.135) classified them as procedures: (1) to weaken behavior; (2) to strengthen behavior; and (3) to develop new behavior. These procedures have been adequately described by others and will not be discussed in this paper. A list of the more common terminology will be provided.

To Weaken Behavior

Those techniques used to weaken behaviors are: (1) extinction; (2) punishment; (3) satiation; (4) counter conditioning; and (5) desensitization.

Extinction: Extinction (MacMillan, 1973) is a process whereby a conditioned response is reduced to its preconditioned level or strength.

The process of extinction in the case of respondents involves continuing the presentation of the conditioned stimulus without any further pairing with the unconditioned stimulus. With operant responses, the extinction results when the respondent is no longer followed by reinforcement (Dollard and Miller, 1950) and (Rotter, 1954).

Punishment: Punishment (Wenrich, 1970) refers to two basic operations. The first form of punishment occurs when an aversive stimulus is presented as a consequence of a response. The second form of punishment occurs when a positive reinforcer is withheld or withdrawn as a consequence of a response (Lovaas, 1967).

Satiation: Satiation (MacMillan, 1973) is a procedure for weakening behavior, whereby the strength of a response decreases as a result of continued reinforcement (Blackman and Silberman, 1971) and (Holz and Azrin, 1963).

Counter Conditioning: Counter conditioning (Wenrich, 1970) is the establishment of a stimulus response bond in which the new response is incompatible with the response formerly elicited by the stimulus (Wolpe, 1969) and (Wolpe and Lazarus, 1966).

Desensitization: Desensitization (Bergin, 1971) is the process whereby the individual unlearns responses learned through respondent conditioning. Typically the client is taught deep muscular relaxation. Then he is asked to imagine a graded series of scenes relevant to the phobia. Progression along the hierarchy is halted whenever the patient experiences anxiety (Lang, Lazovik, and Reynolds, 1965) and (Wolpe and Lazarus, 1966).

To Strengthen Behaviors

Behavior modification procedures designed to strengthen behaviors include: (1) positive reinforcement, and (2) negative reinforcement.

Positive reinforcement: Positive reinforcement (MacMillan, 1973) is any stimulus which, when made contingent upon a particular response, will strengthen that response (Skinner, 1970) and (Lazarus, 1968).

Negative reinforcement: Negative reinforcement (Wenrich, 1970) is the increase in the frequency of a response, or the maintenance of a response, when the consequence of the response is termination or avoidance of an aversive stimulus. A response is negatively reinforced if it results in termination or avoidance of an aversive stimulus (Linsonlay and Skinner, 1962), and (Ullman and Krasner, 1969).

To Establish Behavior

Procedures designed to establish behavior include: (1) shaping and (2) modeling.

Shaping: Shaping (MacMillan, 1973) is a procedure for developing new or more complex behavior through the reinforcement of successive approximations to the goal behavior. This procedure uses both positive reinforcement and extinction procedures to develop these closer approximations (Reynolds, 1968) and (Wenrich, 1970).

Modeling: Modeling (MacMillan, 1973) is a procedure for learning in which the individual observes a model perform some task and then imitates the performance of the model (Bandura, 1965) and (Jacobson (1968).

LEVELS OF REINFORCEMENT

Each intervention procedure uses various types of reinforcement to facilitate the weakening or strengthening of behavior and the development of new behavior. Reinforcement is an operation that increases the strength of a response. In the respondent paradigm this operation is the pairing of the neutral stimulus with an unconditioned stimulus. In the operant paradigm, the operation refers to a stimulus event which follows the emission of a response, which is thereby strengthened. Five levels of reinforcers will be discussed. These levels of reinforcers are illustrated in Figure 2, page 3.

Primary Reinforcers

Primary reinforcers as described by Wenrich (1970) are unlearned reinforcing stimuli. Their reinforcing qualities are derived from biological characteristics of the organism. The most commonly used primary reinforcers are food, water, sex and termination of adversive behaviors.

Secondary Reinforcers: Token Economy

The secondary reinforcers are stimuli like a plastic chip, stars, a check mark, or other ratings which can be exchanged for objects the child either needs or wants. Thus, the individual learns to maintain desired behavior from the time it is emitted until the tokens can be exchanged for desired objects. O'Leary and Drabman (1971) listed three necessary components of a token economy program. A program must contain: (1) a set of instructions to the individual describing the behaviors that will be reinforced, (2) a method of making the reinforcer contingent

behavior, and (3) established rules governing the exchange of tokens for the objects he either needs or wants.

Social Reinforcers

Social reinforcers are those reinforcers provided by people in the child's environment. They include attention, interest, or desired physical contact, praising words, facial expressions, nearness and physical contact (Becker, 1971). Patterson and Reid (1970) suggest that such social reinforcers change the individual's behavior from inappropriate to appropriate levels in small incremental steps. Thus, the individual's behavior is gradually changed by the way in which other people react to his changed behaviors. This starts a series of actions and reactions which ultimately produce more effective human behavior (Weiss, Krasner, and Ullman, 1963); (Ullman and Krasner, 1963); and (Salzinger and Pisani, 1960).

Intrinsic Reinforcers

Intrinsic reinforcers are internal motivators. They are the result of the individual's internalization of his environment, processing information, and attending to meaningful aspects of the environment. Initially, an individual is reinforced by outside agents through primary, secondary, or social reinforcers. In this manner he develops and maintains appropriate behavior. As he begins to internalize his environment and develop a functional set of inner resources, he begins to provide his own reinforcers. Inner resources are developed only after basic physical and safety needs are met (Maslow, 1964). When these more primitive reinforcers increase his level of security, he becomes less

dependent upon them and is able to make the transition to higher order reinforcers. As the child grows older, intrinsic reinforcers tend to make him interact with his environment more at an ideational and symbolic level and less in overt activity.

Intrinsic reinforcers are those reinforcers that an individual provides for himself as he evaluates his behavior. A positive evaluation stimulates the pleasure centres of the brain providing a form of reward which is self centred, self stimulating, and which satisfies individual needs (Fiske and Maddi, 1968); (Harlow, 1953); and (Hebb, 1958). Like other reinforcers, intrinsic reinforcers increase the rate of rewarded behavior.

Moral-Philosophical Reinforcers

Moral-philosophical reinforcers are derived from the individual's mental speculation or rational thought about goodness, truth, and beauty. As the individual works toward maximum growth, primary, secondary, and social reinforcers become less satisfying. This develops because the individual becomes more secure and can thus look beyond providing for basic physical and safety needs. At this stage he must go into his psyche and achieve satisfaction as he broadens his expanding world. Then, he must develop interests and expend energy to serve groups beyond his church, family or nation.

Such reinforcers have primarily been considered by philosophers and intellectuals such as Tillich (1944) and Maslow (1964). This is because traditional behavior modification clients have come from populations which are mentally defective, psychotic, or in need of remedial help. In addition, researchers have experienced major dif-

ficulties in attempting to systematically apply such reinforcers, recording response rates and developing procedures to analyze their data. Nonetheless reinforcers are appropriate for clients who function at advanced levels.

Explanation of Multilevel Reinforcers

The integration of multilevel reinforcers is illustrated in Figure 2. They are illustrated as if each consists of a number of discrete variables. In reality, however, these variables are continuous and overlapping in nature. The first level does not disappear as the second, third, fourth or fifth levels appear. Each level continues to function, however, its emphasis shifts as additional levels of reinforcement are introduced.

Parent Trainin,

The Department of Social Services found that most special foster home parents needed information and support to produce the desired child behaviors (see page 5). Therefore a series of monthly meetings were arranged for the special foster home parents. The Department of Social Services brought outside resource personnel in to present the foster parents with information about subjects like behavior modification, drugs, growth and development, emotions, sex, discipline and law. Most speakers gave theoretical knowledge and also supplied the foster parents with practical application of that knowledge. In addition to the information function, these meetings gave parents powerful social reinforcers, developed coping behaviors, and provided a time when they could exchange ideas. This combination of activity seems to provide a form of catharsis for the parents.

The Monitoring System

During the system's operation the family subsystem interacts with the other subsystems. The training, skills, knowledge and attitude developed by the family are supplemented by religious, educational and community organizations.

Each component of the system is then evaluated to determine the degree to which the system's objectives have been realized. (See Figure 3).

FINAL EVALUATION

If the goals have been realized, the goals and/or objectives may need to be modified and implemented. The program is then allowed to remain operational for another year with only minor changes. If they have not been realized the program is re-evaluated in terms of setting more realistic instructional, procedural, or organization goals. If the program performance is unsatisfactory, the program administrators may change critical information inputs, change instructors, pre-select students, improve the information feedback cycle or change the program format. In addition, they would use cost estimates to determine if the program should be operated for another year. At this point the program may be terminated. Alternatively, the decision may be to submit the revised program for a second yar of operation.

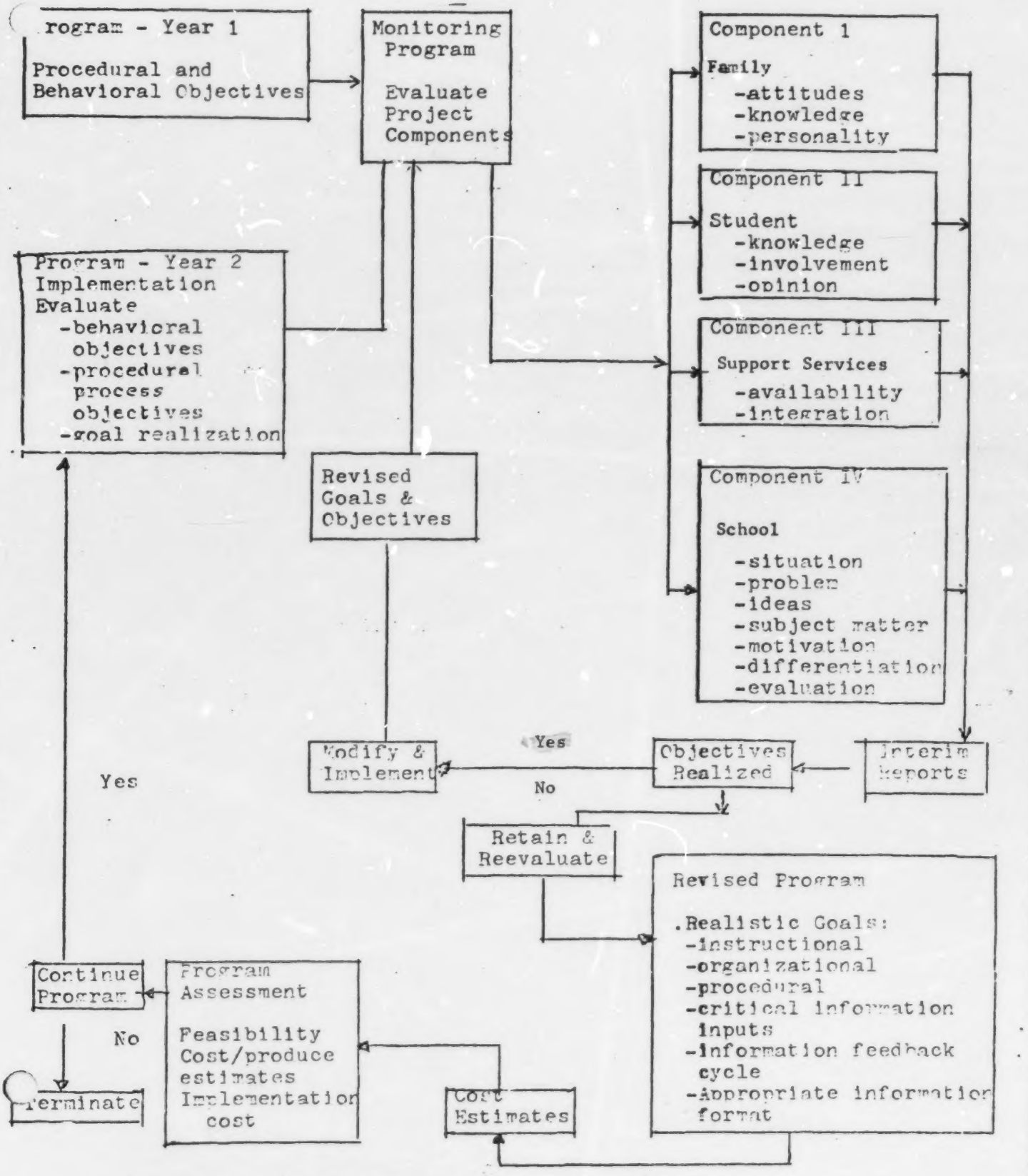

Figure 3. Flow chart for Evaluation

Conclusion

The Department of Social Services has designed a plan to integrate the services provided for the child by the foster home, school, and community agencies so that each child can gain the skills necessary to develop the motivation and emotional maturity necessary for self-direction and self-discipline as a member of his society.

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